

Management of Dystocia Cases in the Cattle: A Review

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Abstract: Dystocia is the inability of the dam to deliver its young through its own effort and is the major cause of calf loss in cattle herds which induce a large economic impact on farmers. Causes of dystocia can be maternal or fetal in origin and its incidence is high in beef cattle than dairy cattle and primipara than multipara cattle and in male than female calves. Cases of dystocia should be attended without any delay. From its signs, the obstetrician can identify the exact point at which normal birth ceases and dystocia occurs. The history of a case should be taken and a general clinical assessment and examination should be carried out. It is important to evaluate vital signs of the unborn calf because they influence the prognosis and the choice of the obstetric treatment and /or equipment used. The specific examination should be undertaken only after the animal has been properly restrained and the obstetrician should have the help of assistants and he/she diagnose and treat the case either by mutation, forced extraction, fetotomy and/ or by caesarean section. In practice, economic considerations have to be taken into account to ensure that the cost of the proposed treatment. After correction of different dystocia cases by different obstetrical operations, obstetricians ensure the well being of mother and young one after delivery. Like other diseases and disorders, veterinarians are in the unique position to prevent the incidence of dystocia.

Key words: Cattle • Dystocia • Obstetrical Management

INTRODUCTION

Calving difficulty, technically called dystocia [1] is defined as prolonged and difficult parturition with assistance frequently being required. For purpose of formulating a clinical management plan for an individual animal, it is convenient to divide the causes of dystocia into those of maternal origin and those of fetal origin [2]. A major cause of dystocia is fetal/maternal disproportion [1]. The incidence of dystocia in cattle has been widely studied because of its effects on productivity [3] and the overall incidence varies with the species and with breeds within the species. The bovine species is most often affected with dystocia [4]. The history of a case should be taken [5]. This information is useful and necessary for the intelligent examination and handling of dystocia [6] and the general clinical assessment and examination should be carried out [5]. The diagnosis of dystocia is frequently based on high degree subjectivity; since there are situations that one person will consider being normal but another will consider difficult [7]. Animals may be particularly aggressive and potentially very dangerous at

parturition and obstetricians must ensure their own safety and that of the owners, attendants and assistants; while the animal is being examined and treated [8]. The prognosis of dystocia varies widely between the different causes and species affected. In general the more prolonged the dystocia, the poorer the prognosis [6]. Calving ease (CE) is a trait that measures the presence or absence of dystocia and its intensity. Difficult births increase direct costs of the herd (veterinary fees, calf or cow death or both and extra farmer labor), as well as indirect costs, such as an increase in the risk of subsequent unfavorable health events, an increase in culling rate and a reduction in productive capacity of the dam. Moreover, dystocia can negatively affect reproductive traits, such as open days or number of services per pregnancy [9]. Pregnancy rates for the dam after losing a calf are lower than for dams that have not lost a calf [1]. Postpartum estrus is delayed, fertility is reduced, calving interval is extended and fewer calves are born the year after dystocia [10]. Birth weight provides some information on calving ease [11]. Although difficult birth can not be accurately predicted or eliminated, the

effects can be reduced by improved management and skilled intervention when necessary [2]. Therefore, a sound management program to rapidly identify cattle experiencing dystocia is critical to cattle welfare and farm profitability [1].

The economic importance of bovine dystocia is emphasized in a number of different published reports. About a third of the total of 17% of fetal and calf losses occur at the time of parturition and that most of these arise from calving difficulties. Calves born to dams which suffered from dystocia were five times more likely to die neonatally than those following normal calving [3]. CHAPA (Cow-calf Health and Productivity Audit) studies indicated that dystocia is responsible for 33 percent of all calf losses and 15.4 percent of beef cattle breeding losses. Dystocia is also the main cause of calf mortality during the first 96 hours of life [1]. If the animal fails to reproduce, which is the first and most important requisite of the cow-calf system, the breeder will soon be out of business [12]. Therefore; the objectives of this seminar paper are:

- To review etiology, incidence, clinical signs, treatment and economic significance of dystocia in cattle.
- To review neonatal care, post delivery cow care and prevention of dystocia.

Etiology of Dystocia: From, a clinical perspective, the etiology of dystocia is multifaceted and included defects in the dam or the fetus and management factors, or their combinations. For the purpose of formulating a clinical management plan for an individual animal, it is convenient to divide the causes of dystocia into either of maternal origin or fetal origin [2].

Maternal Cause of Dystocia: Problems with the dam that impede or prevent delivery include a lack of expulsive force and abnormalities of the birth canal [2]. The absence of uterine contractions or inertia may be primary or secondary. Primary uterine inertia is due to excessive stretching and is common in multiple pregnancies in cattle and a defect in the myometrium that renders contraction impossible, hormonal defect and periparturient hypocalcaemia and it may be also due to close confined cattle. Secondary uterine inertia is due to exhaustion of the uterine muscle secondary to obstructive dystocia [13]. Delivery may be inhibited by inadequate size of the maternal pelvis, pelvic deformities, incomplete dilatation of the cervix and uterine torsion. Stenosis of the vulva and vestibule may be the result of immaturity or may be a heritable defect in some breeds [2].

Fetal Cause of Dystocia: Broadly, the fetal origin of dystocia can be divided in general to the abnormal 3P's (P1=presentation, P2=position and P3= posture) and excessive fetal size relative to the maternal pelvis (Feto-pelvic-disproportion) [6]. Presentation is the relation between the long axis of the foetus and the maternal birth canal; position indicates the surface of the maternal birth canal to which the foetal vertebral column is applied and posture refers to the disposition of the movable appendages of the foetus and involves flexion or extension of the foetal neck or limbs [8]. The normal delivery is made longitudinal, in the anterior presentation, dorsal sacral position; with bilateral foreleg extension [14]. Spontaneous delivery with other fetal presentation, position, or posture is unlikely unless the fetus is quite small or the dam's pelvis is unusually large [2]. Deviation of the head and flexion of the various joints in anterior presentation, flexion of both hind limbs (Breech) in posterior presentation, or twins may cause dystocia [13]. The most common cause of dystocia in cattle is feto-pelvic disproportion. The situation is most common in heifers where the fetus is of normal size for its breed but the maternal pelvis is of insufficient size (Relative over size) or the fetus may be unusually large and cannot be delivered through a pelvic canal of normal size [2].

Epidemiology of Dystocia: The incidence of dystocia in cattle has been widely studied because of its effects on productivity. It is less common in dairy than in beef cattle. In relation to parity, there were 66.5%, 23.1% and 14.3% assisted deliveries in 1st, 2nd and 3rd calving respectively [3]. The incidence of dystocia varies but generally is more common among first-calf heifers [2]. The overall incidence of dystocia varies between the species and the bovine species is most often affected. Maternal dystocia occurs less frequently than fetal dystocia and 85.5% of fetal and 14.5% of maternal dystocia has been recorded [15]. Dystocia is more common in primipara than multipara cattle during the birth of male than female calves [4].

Signs of Dystocia in the Cow and Evidence of Fetal Life: Dystocia occurs when the first or second stage of labor is prolonged and assistance is required for delivery. No clear boundaries exist between dystocia and eutocia (Normal birth), but guidelines based on progress and duration of the delivery may aid the veterinarian and the producer to decide when to interfere with the birth process [2]. Identifying the exact point at which normal birth ceases and dystocia occurs is not easy. The calf can survive for

up to 8 hours during 2nd stage labor but delivery time is normally much shorter than this. Specific signs include: prolonged, non-progressive, 1st stage labor; the cow standing in an abnormal posture during 1st stage labor-in cases of uterine torsion. Some cows may stand with a dipped back posture; straining vigorously for 30 minutes without the appearance of the calf; failure of the calf to be delivered within 2 hours of the amnion appearing at the vulva; and obvious malpresentation, malposture, or maldisposition; for example the appearance of the fetal head but no forelimbs, the tail but no hind limbs, the head and a single forelimb [8]. Dystocia results in physiological stress evidenced by increased serum cortisol concentrations of dystocial calves after birth. Moreover, meconium staining, a sign of intra uterine stress, was more common in dystocia-affected calves whereas plasma lactate concentrations, indicative of anaerobic challenge, were significantly greater [15]. It is important to evaluate vital signs of the unborn calf because they influence the choice of the obstetric treatment [5].

The fetus should be examined: whether the fetus is living or dead. The presence of a living fetus is indicated by the reflex movements in the natural orifices, such as the tongue reflex after seizing it, the movement of the jaw, the eyelid reflex, sphincter contraction; and also by pulsation in the umbilical arteries. Signs of death are absence of reflexes, an abundant discharge of meconium about the anus and finally cutaneous emphysema [16].

Economic Significance of Dystocia: The consequences of dystocia are numerous and will depend up on the severity. Firstly, there are the financially unquantifiable effects on the welfare of dam and offspring. Secondly, there are the quantifiable financial consequences [7]. Dystocia is also the first cause of calf mortality during the first 96 hours of life [1] and increased puerperal disease of the dam and increased subsequent culling rate of the dystocial dams [7]. CE is a trait that measures the presence or absence of dystocia and its intensity. Difficult births increase direct costs of the herd (Veterinary fees, calf or cow death or both and extra farmer labor), as well as indirect costs, such as an increase in the risk of subsequent unfavorable health events, an increase in culling rate and a reduction in yield. Moreover, dystocia can negatively affect reproductive traits, such as days open or number of services per pregnancy [9].

Moreover, dystocia- increased mortality, morbidity and decreased transfer of passive immunity of born calves. Extended periods of labor, contractions and trauma during difficult parturitions increase hypoxia and acidemia of the neonate. Important physiological changes

also occur in calves experiencing dystocia. For instance, initial rectal temperatures after birth were greater in dystocia-affected dairy calves, but later temperatures were less than in eutocial calves [15]. There are several causes of disease and death in newborn calves. In many locations, the leading causes of beef-calf deaths are related to difficult births. Looking only at the effects of calving difficulty on the calf, several relationships were reported. First, the more difficult the calving difficulty, the greater risk for infectious disease. Typically, this is reflected by higher incidences and death loss associated with either diarrhea or respiratory disease. Second, the more difficult the calving difficulty, the harder it is for the calf to maintain its body temperature following calving [17].

Estrus expression is important for either AI technicians or a bull. First-calf heifers with greater incidences of dystocia tend to have poorer fertility responses. Detection of estrus, conception rates and overall pregnancy rates are negatively affected by dystocia [18].

Procedures to Handle Obstetrical Cases

History: As the preliminary examinations and preparations for handling the dystocia are being made [6] much of the histories are the outcome of questioning of the attendant, but many points also will be elicited from personal observation of the animal [16]. This information should include: the duration of gestation; the previous breeding history; the length of time the animal has been in active labor; what is the nature of straining-strong or weak, intermittent or regular, increasing or decreasing in frequency? Has allantoic sac ruptured, the amniotic sac appeared at the vulva?. This information is useful and necessary for the intelligent examination and handling of dystocia [6].

In case of serious emergency, time may not permit the taking of a full case history but whenever possible this should be done [8]. If the clinician is not already familiar with the client's management style, it can be useful to gain a brief summary of previous dystocia cases and breeder management and information on the bull used for the mating period. To save time, much of this information can be extracted during conversation as the clinical evaluation proceeds. It is important to know how long the animal has been in labor [2]. It is also important to determine whether parturition has started prematurely or is it at full term. The progress of the birth can be assessed from the duration and intensity of labor contraction, time of rupture of the fetal membranes and appearance of fetal parts at the vulva [19].

Physical Examination: The general examination of the patient with dystocia include its physical condition whether it is thin and emaciated, too fat, or in good condition. If the animal is recumbent, the veterinarian should determine; is it able to rise or is it exhausted or is it affected with obturator paralysis. The pulse, temperature and respiration rate should be noted. In most dystocia cases the pulse and respiration rate moderately elevated and the temperature may be slightly higher than normal due to the efforts at parturition [6]. Cows and heifers should be allowed a reasonable amount of time to spontaneously deliver their calves. If an adequate time off or the first or second stage of labor has been exceeded, examination is indicated. Heifers should be allowed a longer time for spontaneous delivery than is required in pluriparous cows [2].

Knowing the normal parturition events is important to diagnose and treat any dystocia cases; so in preparatory stage or stage 1 that lasts from 2 to 6 hours, any calf rotates to upright position, uterine contractions begin and water sac expelled; while during delivery or stage 2 that lasts for one hour or less, a cow usually lying down, fetus enters birth canal, front feet protrude first and calf delivery completed. Caruncle-cotyledon attachments relaxed and in cleaning or stage 3 that lasts from 2 to 8 hours, uterine contractions continue to expel the fetal membranes [20].

The nature of the vulvar discharge, whether it is watery, mucoid, blood, or fetid will often indicate the condition of the fetus. If much fresh blood is present, injury to the birth canal has probably occurred due to the intervention of the owner or someone else. The character of the fetal membrane if hangings from the vulva are of further assistance in determining the condition of the fetus and the length of the time the dystocia has existed. If a portion of a fetus protrudes from the vulva its condition and position and posture should be observed. The vulva itself should be noted to gain information on the amount of edema or trauma present as an indication of the length of time the dystocia has existed [6].

Fetal movement should be noticed at the cow's left flank and if this is vigorous, it indicates the placental separation which causes fetal anoxia and hyper motility. After rupture of amnion, the fetus is examined with the hand to determine its presentation, position and posture [5].

Restraint and Specific Examination of Cattle: The specific examination consisting of the detailed examination of the genital tract and fetus should be

undertaken only after the animal has been properly restrained, as the obstetrical operations usually follow immediately after this examination. In range cattle a well-constructed chute is desirable, or cows might be fastened securely with a rope halter in corner of a large box stall. If they kick, a nose lead will often divert their attention [6]. Animals may be particularly aggressive and potentially very dangerous at parturition and obstetricians must ensure their own safety and that of the owners, attendants and assistants while the patient is being examined and treated [8]. The animal's external genitalia and the surrounding structures should be washed thoroughly with mild antiseptics. The tail should be held to one side by an assistant or tied with a tail rope over the back to the opposite elbow. The operator should wash and lubricate his arms with antiseptic before making an examination of the birth canal and fetus [5].

When feet are only presented, then to determine if they are front or hind limbs. Front feet have 4 joints that flex in the same direction (Coffin, pastern, fetlock and carpus) before the elbow goes the opposite direction. The hind limb has only 3 joints that flex in the same direction (Coffin, pastern, fetlock) before the hock goes in the other direction. If the legs are front legs, make sure they are from the same calf by tracing them back to the same body by finding the head [14]. If the history of the case leads the examiner to know or suspect that others have been examining and attempting to relieve the dystocia, it is extremely important that the birth canal and caudal portions of the uterus be examined carefully for evidence of trauma [21]. Dystocia is treated to save the life of the dam and the calf and to maintain her future fertility [3].

Obstetrical Equipment: Protective clothing, rubber gloves and sleeves should be worn, when indicated, to prevent infection and odors from contaminating the arms of the operator or transferring infection [6]. Instruments for traction include obstetrical (OB) cords and straps, OB chains and handles, OB snares and hooks (long and short, blunt and pointed), OB forceps and fetal extractors. The instruments used for repulsion and rotation include Kuhn's Crutch, OB repeller with or without spear head, detorsion rod and OB forceps. Instruments used for fetal sectioning include fetotomy knives (Straight or curved), BP scalpel (Naked or guarded blade), fetotomes (Various types), OB chisel (Plain or guarded) and various types of wire saws [8, 22].

Also water-proof parturition gown and gumboots, three nylon calving ropes of different colors with short wooden cylindrical handles, a lubricant-synthetic colloidal

gels are very useful and at least 750ml should be available for calving. Soap and water are the traditional obstetrical lubricant and liquid paraffin may also be used as lubricant; Drugs: oxytocin, calcium borogluconate, dextrose solutions, injectable antibiotics, uterine pessaries, TAT, clenbuterol; and warm water are necessary [5].

Assistance Required: Ideally the obstetrician should have the help of three assistants. One to manage the head of the dam and two to assist with fetal delivery at her rear end and to prevent the cow from swinging her rear end around during examination and treatment [5]. If the operation is to be carried out on the standing cow, one attendant will be required to restrain the cow, but if a recumbent position is chosen then at least two experienced assistants will be necessary. Although cesarean section (CS) can be carried out single handed but a skilled surgical assistance in the form of a colleague or veterinary nurse makes the procedure both simpler and safer [8].

Obstetrical Operations

Mutation: It is defined as the process by which a fetus is restored to normal presentation, position and posture by repulsion, rotation, version, or extension of extremities [2]. Abnormalities of fetal posture generally are easier to correct when the dam is standing. After the veterinarian has brought each part of the fetus into its normal posture, the cause of dystocia is usually relieved and the fetus will be expelled normally, or parturition aided or completed by traction [6]. If mutation cannot be completed in 15 to 30 minutes, an alternate method for delivery should be selected [2].

Repulsion: Repulsion, sometimes called retropulsion, consists of pushing the fetus out of the maternal pelvis or birth canal into the abdominal cavity and uterus, where space is available for the correction of the position or posture of the fetus and its extremities. It is usually necessary because the birth canal or pelvic cavity is so narrow and so confining that it is impossible to correct deviations in position or posture without providing more room in which to manipulate the fetus or its long extremities. Repulsion may be accomplished by the operator's arm, the arm of an assistant, or by crutch repeller. Repulsion is difficult or impossible in the recumbent animal resting on its sternum, as the abdominal viscera are pushing the fetus back toward the pelvis. If the animal is recumbent it should be laid on its side with

its four legs extended [6]. The fetus and birth canal must be well lubricated and 3 to 5 liter of a water-based lubricant can be gently introduced around the fetus through a stomach tube by a means of a pump. It may be necessary to abolish abdominal straining with an epidural anesthetic, but the expulsive efforts of the dam will not subsequently be available for delivery of the fetus. Care should be exercised in repelling a fetus, because uterine rupture may result from excessive pressure [2].

Rotation: It is defined as turning the fetus on its longitudinal axis to bring it from dorso-ilial or dorso-pubic position to dorso-sacral position. Partial rotation also is an essential component of the routine vaginal delivery technique to ensure that the fetal hips enter the maternal pelvis on a diagonal. In many cases, rotation can be accomplished by the hand and arm of the operator. By grasping the humerus of the ventral limb near the shoulder joint, the operator lifts the fetus upward and medially. Alternatively, the fetal limbs can be crossed and rotational force applied to bring the fetus to dorso-sacral position. In difficult cases, use of detorsion rod may be necessary, but excessive force may result in injury to the dam and the fetus should be avoided [2].

Extension: It refers to the extension of flexed joints when postural defects are present. It is carried out by applying force to the end of the displaced extremity so that it is brought through an arc of a circle to the entrance of the pelvis. The force is applied preferably by hand or, failing that, by snare or hook [3].

Version: It is defined as the rotation of the fetus on its transverse axis into an anterior or posterior presentation [6]. It is usually limited to 90 degrees and attempts to convert caudal presentation to cranial presentation are not likely to be successful and will commonly result in uterine tears [2].

Delivery by Extraction: It is the withdrawal of the fetus from the dam through the birth canal by means of the application of outside force or traction [6]. The application of external force is used to pull the presented parts of the fetus and for supporting, or replacing the maternal force. Such force is applied by hand or through the medium of snares or hooks. Limb-snares are fixed above the fetlocks and the head snares may be applied by which the loop is placed in the mouth and up over the poll and behind both ears with leaving both ends of the rope protruding from the vagina. A very important consideration is a magnitude

of the supplementary force which may be used, since excessive force inappropriately applied can cause several traumas to dam and fetus. In the cow, it is felt that well coordinated pull of four average persons should be the limit [3]. In posterior presentation traction may be applied to the fetal pastern or above the hook by the use of obstetrical chains [6].

Delivery by Fetotomy: If delivery by traction is not possible without danger to the dam or the fetus, the veterinary obstetrician must consider the option of CS or fetotomy [2]. Fetotomy is defined as those operations performed on the fetus for reducing its size by either its division or the removal of its parts. It is indicated in oversized fetus, abnormalities in presentation, position, or posture or a combination of these which can not be corrected by mutation and when the fetus is emphysematous. Fetotomy is generally recommended in preference to CS when the required operation is simple, involving only one or two procedures. In complicated cases, fetotomy procedures would be required. A caesarean section should be recommended [5]. Fetotomy is recommended to avoid the major abdominal surgery of caesarean section, required less assistance, shorter recovery time, less aftercare and low cost than caesarean section [23]. But the recorded disadvantages of fetotomy may be dangerous, causes injuries or lacerations to the uterus or birth canal by instruments or sharp edges of bone; and also it may take a long time causing exhausting of both the dam and the operator [6]. When the calf is already dead, fetotomy is the method of choice due to optimal cow survivability [17]. When the whole fetus is divided into smaller pieces, or partial removal of part of the dead fetus or when a small part of the fetus such as a leg is removed all are called fetotomy [8]. In general, fetotomy should not be attempted unless: proper fetotomy instruments, adequate space in the birth canal for introduction and alignment of the fetotome, the patient can be restrained in an area that allows adequate space for operating the wire saw and adequate help is also available [24].

Cesarean Section: It is the delivery of the fetus, usually at parturition, by laparo-hysterotomy. The goals of the cesarean section are preservation of the dam and calf and the future reproductive efficiency of the dam [25]. This operation is performed when mutation, forced extraction and fetotomy are deemed inadequate or too difficult to be employed to relieve the impending or present dystocia or

when it is desired that the fetus be delivered a live [8]. Indications for caesarean section include fetal oversize, fetopelvic disproportion, incomplete dilation of the cervix, irreducible torsion of the uterus, hydrops of the fetus, hydrops allantois or abnormalities of presentation, position or posture, ventral hernias and prolonged cases of dystocia [6]. Cesarean section is now a routine obstetric procedure in cattle practice. It is the method of choice when dealing with a live calf and to optimize calf survivability [17]. Good surgical technique, including gentle tissue handling, appropriate suture materials and patterns and adequate in-folding of the uterine incision to prevent leakage, combined with treatment by antibiotics and anti-inflammatory when indicated can help minimize detrimental adhesions that may affect adversely the future reproductive efficiency of the cow [25]. The choice depends on the surgeon's preference, demeanor of the animal, as well as available facilities. In a cow capable of tolerating surgery while standing, the left paralumbar fossa or flank approach is the standard technique for a viable or recently dead, uncontaminated fetus [26]. The left oblique approach is preferable under most circumstances, because the uterus is readily exteriorized, limiting peritoneal cavity contamination [27].

Techniques of CS Include: The skin and subcutis and the abdominal muscle and the parietal peritoneum are incised to expose the gravid uterus. The incision on the uterus is made away from its attached border, big enough to deliver the fetus. The incision is so placed that only the minimum number of cotyledons are affected by it. The fetus is delivered. The fetal fluid should be directed outwards by packing the uterus suitably. The uterine incision is closed by a double layer of lembert sutures which do not include the fetal membranes. Suture the parietal peritoneum, muscles and skin separately [3]. The Uterine incision is sutured using absorbable suture material, such as chromic catgut (7 metric), polyglycolic acid and polyglactin 910. A simple continuous suture pattern is used in abdominal flank suturing starting at the ventral commissure of the incision. Sutures should be placed approximately 1cm apart using chromic catgut. Before closing the skin, it is advised to place several simple interrupted tension sutures wide and deep through the abdominal muscles, using chromic catgut. The skin incision is closed in a standard manner (simple interrupted horizontal mattress or cruciate pattern) using non-absorbable suture material, such as sheathed monofilament nylon (6 metric) [26]. Generally the

prognosis of obstetrical case varies widely between the different causes and species affected. In general the more prolonged the dystocia, the poorer the prognosis. The greater the trauma, irritation and infection of the birth canal caused by inexperienced layman attempting to relieve the dystocia, the graver the prognosis [6].

Post Delivery Care

After care of mother: Although the main responsibility for this rests with the patient's owner, the obstetrician must ensure that mother and young are well after delivery and advice on specific aspects of their care if appropriate [8].

Neonatal Care: An animal care taker who is aware of the challenges to the survival of the neonates will likely take steps to increase the chance of survival. The respiratory passages should be checked for pieces of placental membrane or mucus that could prevent respiration. In cold weather, the newborn should be dried and if possible placed in a clean, dry shelter. In the summer, a shade will be beneficial to survival [8]. The first meal is very important for the health of the calf and feeding of colostrum is essential within five hours of birth [15]. If the newborn has not nursed within the first hour, it should be assisted in obtaining a meal of colostrum to provide him by both nutrients and antibodies. If the mother died during parturition, colostrum from another female of the same species should be provided. Normal milk will provide most needed nutrients, but will not contain the needed antibodies [10]. For the first couple of days: remove the placenta so that the cow cannot eat it; allow the cow to lick the calf dry [8]. In dystocia cases, it is necessary to wipe the mucus from the nostrils to permit breathing; or, more rarely yet, artificial respiration methods may have to be applied to some calves. This may be done by blowing in to the mouth and permitting the calf to fall gently. To lessen the danger of infection, the navel cord of the new born calf should be treated at once with a 2% solution of tincture of iodine [12] or other strong alcoholic drink will do if there is nothing else [8].

Post Natal Check of the Cow: After delivery of the calf the uterus must always be checked for evidence of another fetus. The birth canal is checked for signs of damage and hemorrhage. Uterine involution usually commences immediately after the birth of the calf. If uterine tone feels low (the uterine walls are flabby) 20 IU of oxytocin should be given by intramuscular injection. The udder is checked again for signs of mastitis [8].

Prevention and Control: As with all diseases and disorders, veterinarians should be endeavoring to prevent and reduce the incidence of dystocia [3]. Foeto-maternal disproportion is one of the major contributors to dystocia and this can be prevented with proper reproductive management. Because heifers are generally smaller than cows, they have an increased risk of dystocia. The size of heifers at breeding should average 66 percent of their mature weight, with a minimum of 60 percent [19]. The National Association of Animal Breeders (NAAB) publishes genetic evaluations for Holstein AI sires ranking them for the ease with which their calves are born and for heifers feed them to calve with adequate size at 24 months and cows so they are in good flesh to calve once each year but not over conditioned, give the cow adequate time to prepare for delivery, observe strict sanitation procedures when examining a cow, provide detailed and attentive neonatal calf care [10]. Heifers should calve with at least a BCS (Body condition scoring) of 5 or greater. Heifer pelvic assessment can be carried out to select replacements for the herd. Those heifers with a small pelvic area before the breeding season may then be culled or selectively mated to easy calving bulls and those with a small pelvic area at the time of pregnancy examination may be aborted, culled, or identified for careful observation at calving. Sires can be selected for ease of calving and estimated birth weights [18].

Recommended ages and weight of different breed heifers are 15-18 month and 341-386.5 kg for both Holstein and Brown Swiss, 14-17 month and 295.5-341kg for Ayrshire and 14-17 month and 250-295.5kg body weight for Jersey [28].

Cows and heifers should be fed to give birth in suitable body condition neither being thin nor fat because fat cows tend to experience more calving problems [28]. Restricting food in the late stages of pregnancy does not prevent a large calf and leads to a weak labour and increased dystocia rates and adequate exercise is good especially at late pregnancy. Not all dystocia can be prevented, such as mal-presentations and early intervention is paramount in ensuring a live birth. Farm workers need to be trained to deal with a dystocia and recognize when further help is needed. A delay in assisting may mean the loss of the calf or injury and even death of the cow [18].

CONCLUSION

Dystocia cases are stressful events for both mother and offspring with potentially lifelong consequences and have a large economic impact on farmers due to calf death,

injury or death to the cow, veterinary cost, as well as the decrease pregnancy rate of the cow after losing a calf and has a detrimental effect on the welfare of the cow and the calf. It is generally, the inability of the dam to expel the fetus at parturition through the birth canal without assistance and the veterinarian is in a unique position to assist and improve the profitability of producers. The incidence of dystocia is common in first-calf heifers of both cattle production, but generally it is more common in beef than dairy cattle. Improper time of intervention is avoided by observing signs of dystocia. The success of obstetrical operation depends on correct history taking, good general and specific examination of the cow, availability of obstetrical equipments and assistants. If corrective measures like fetal mutation and extraction have failed, caesarean operation and/or fetotomy are other choice of measurements. After treatment intervention or delivery, the respiratory function of the calf is assessed and assisted to suck milk; and the reproductive organ of the cow is examined for other calf and/or other abnormalities. The incidence of dystocia is prevented by proper nutrition or pregnant heifers and cows should be in good condition, especially in the last one-third of their pregnancy; sire selection for decreasing the calf size and observe the calving and early intervention are important to avoid dystocia. Therefore; based on the above conclusions the following recommendations are forwarded:

- Make awareness to the public that the effect of dystocia not only for the household individuals but also to the country in general and aware them the predisposing factors to reduce the incidence of dystocia.
- Educate the owner to come to veterinary clinic early in dystocia cases and to tell the truth history for the clinician.
- The obstetrician should have adequate knowledge to take measure to get live calf and mother and obstetric cases should always be regarded with urgency.
- Mobile veterinary service and adequate equipment should be present in every clinic.
- Obstetrician must ensure that mother and young are well after delivery and advice on specific aspects of their care if appropriate.

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